
**Paleontology; Findings from University of Texas Austin Provides New Data about Paleontology
(Sequence Stratigraphic and Paleoecologic Analysis of an Albian Coral-rudist Patch Reef, Arizona, Usa)**

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2020 JAN 31 (NewsRx) -- By a News Reporter-Staff News Editor at Science Letter -- A new study on Paleontology is now available. According to news reporting from Austin, Texas, by NewsRx journalists, research stated, "Fossilized reefs can preserve critical information about changes in marine environments over a relatively short period of time. The interpretation of these changes is often hindered by the complexity of reef growth with respect to architecture, biotic zonation, and time."

Financial supporters for this research include Association for Women Geoscientists, Evolving Earth Foundation, Geological Society of America, Lerner-Gray Memorial Fund through the American Museum of Natural History, Paleontological Society, Jackson School of Geosciences at the University of Texas at Austin, Reservoir Characterization Research Laboratory (RCRL) at the Bureau of Economic Geology, The University of Texas at Austin.

The news correspondents obtained a quote from the research from the University of Texas Austin, "High-resolution mapping and data collection incorporating both sequence stratigraphical and paleoecological principles are needed to document the architectural complexity of reef development. To demonstrate this, we present a case study in which both principles are integrated to build a new stratigraphic framework for an Albian-aged rudist-coral patch reef outcrop (Paul Spur, Bisbee, AZ, USA). The dataset reveals that the outcrop preserves five stages of development: (1) initial shoal deposition; (2) pioneer reef growth; (3) reef diversification; (4) reef hiatus; and (5) rudist shoal development. These stages represent periods of deposition and reef growth within high-frequency transgressive-regressive sequences. Interpretations of sedimentological and paleoecological data are then used to demonstrate the variable influence of different environmental controls on reef growth. Prevailing wind and current direction act as higher order controls on overall reef architecture by influencing windward-leeward asymmetry. Fluctuations in relative water depth as well as sedimentation rate, source, and type is an important influence on reef community and growth habit. Though corals and rudists cohabited during much of the reef's history, corals dominated when water depth was greater and external sediment influx lesser, whereas rudists dominated in shallow water depths and during periods of high external sediment influx."

According to the news reporters, the research concluded: "This work demonstrates that detailed evaluation of stratigraphy and palaeoecology, as well as careful consideration of timelines and heterogeneity, is essential for building an accurate stratigraphic framework that allows a more thorough understanding of processes driving reef growth."

For more information on this research see: Sequence Stratigraphic and Paleoecologic Analysis of an Albian Coral-rudist Patch Reef, Arizona, Usa. *Palaios*, 2019;34(12):600-615. *Palaios* can be contacted at: Sepm-Soc Sedimentary Geology, 6128 East 38TH St, Ste 308, Tulsa, OK 74135-5814, USA.

Our news journalists report that additional information may be obtained by contacting K.E. Hattori, University of Texas Austin, Bur Econ Geol, Jackson School of Geosciences, Austin, TX 78758, United States. Additional authors for this research include C. Kerans and R.C. Martindale.

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